UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/815,603	03/23/2001	David Clear	40033/JEJ/X2	7205

35114	7590	06/08/2005

	EXAMINER
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ART UNIT	PAPER NUMBER
2667	

DATE MAILED: 06/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO 90C (Rev 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/815,603	CLEAR ET AL.
	Examiner	Art Unit
	Christopher P Grey	2667

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>04 January 2005</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-24</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) <u>1-24</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date <u>2</u>.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

1.   The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior office action

2.   Claims 1-9 rejected under 35 U.S.C. 103(a) as being unpatentable over Lamberton et al. (US 6754220) in view Li et al. (US 5473599).

<u>Claims 1</u>   Lamberton et al. (Lamberton' herein) discloses a method and system within a local area network (LAN) that comprises a plurality of active routers assigned to a plurality of hosts. The hosts and routers are connected via a LAN medium (see element 330 in Fig 1). The hosts send packets of IP protocol to the routers via the LAN medium. Lamberton makes reference to the use of HSRP and VRRP as the types of protocol being applied to the LAN (as disclosed in Col 3 lines 52- Col 4 lines 25).

Lamberton does not show where the physical routers determine responsibility for forwarding a packet received on the LAN medium as a function of a redundant router protocol type of the packet. However, Li et al (Li' herein) discloses a system and protocol for routing data packet from a host on a LAN through a virtual address belonging to a group of routers. Within this system, from a group of active routers one is chosen to emulate a virtual router. A standby router, also from the group of active routers, backs up the active router so that if the active router fails, the standby router emulates the virtual router. The virtual router may be any physical router elected among a group of routers connected to the LAN (See Col 2 lines 15-41).

Claims 2   As previously mentioned, Lamberton makes reference to the
protocol type being VRRP or HSRP. With both of these being mentioned, it should be
clear in the art for the possibility of a first protocol type VRRP and a second protocol
type HSRP (as disclosed in Col 3 lines 52- Col 4 lines 25).

Li further illustrates a group of active routers and the emulation of a virtual router, which
implies the system having the option of a standby router protocol (HSRP) and a VRRP
as the protocol type.

Claims 3, 4, 5 and 6   Lamberton shows a plurality of hosts forming a group of
hosts as can be seen in element 320 in Fig 3. Lamberton does not disclose a host
having configured thereon a virtual router address of the redundant router protocol type.
However, Li's invention discloses a protocol (possibly first, second, third or fourth
redundant router protocol type) for routing data packets from a host on a LAN through a
virtual address as disclosed in the abstract and Col 2 lines 16-40.

Therefore it would have been obvious to one in the ordinary skill in the art at the
time to modify the plurality of hosts contained within Lamberton's invention with the
routing through a virtual address as disclosed in Li in order to achieve the use of a
virtual router as a possible primary and standby router.

Claims 7, 8 and 9   Lamberton shows where that matching of MAC addresses
occurs in the router. From fig 4, MAC address of IP is sent through a mediator via
element 470. When MAC addresses match, IP packets are sent to a first router
(element 440 in fig 4) resulting in routing. When MAC addresses do not match, a
request is sent back to the host and the MAC address matching a second router

(element 450 in fig 4) is sent and matched to its router, resulting in routing (see Col 4

line 61- Col 5 line16).

Therefore it would have been obvious to one of the ordinary skill in the art, at the

time of the invention to modify the system of routing, with a plurality of routers and hosts

in Lambertons invention with the procedure of matching MAC addresses as disclosed

by Li. The motivation for this is to achieve a routing mechanism, which allows the choice

of a router depending on a search and match of MAC addresses.

3.   Claims 10-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Lamberton et al. (US 6754220) in view of Chung (US 6751225).

Claims 10, 11 and 18   Lamberton discloses a method of routing a plurality of

packets, assigning a plurality of active routers to a plurality of hosts (disclosed in Col 3

lines 10-27). Packets are routed using protocol, as is disclosed in Col 3 line 53- Col 4

line 19 and Col 4 lines 26-60. Also disclosed within Lamberton's invention is a packet

entering a mediator with a packet address or default packet router address as disclosed

in Col 4 lines 26-60. Lamberton discloses a comparator in the mediator (element 300 in

fig 3), which uses the comparison of MAC addresses (considered prefix) in order to

match the corresponding destination router. Lamberton does not fully disclose

comparing of a prefix of the packet.

However, Chung discloses an invention relating to the routing of packets which

further discusses header information (prefix) of incoming packets being compared in

order to direct the packet to its corresponding router (see Col 7 lines 12- Col 8 lines 4

also see col 4 line 62- col 5 line2)

Claim 13, 14, 15, 16, 17, 19, 20, and 23

Lamberton fails to disclose:

Claim 13 the step of formulating a key to search a database table to determine if the

router is responsible for forwarding the packet

Claim 14 the key including a protocol ID to indicate the redundant routing protocol type

for the packet

Claim 15 the key including a VLAN address.

Claim 16 the key including a group ID to indicate the redundant routing protocol type for

the packet

Claim 17 The packet being routed by a virtual router

Claim 19 The router further comprising means for determining whether the router is

responsible for forwarding the packet.

Claim 20 The virtual router address includes a MAC address and a VLAN ID

Claim 23 Prefix match means for determining whether the packet is of a redundant

router protocol type.

However, Chung discloses a look-up table (database table) that allows

determination of the corresponding router (see table 1 Col 26 lines 20- 43). Within the

lookup table is a column for:

MAC address that allows a packet's MAC address (claims 11 and 20) to be searched
within the table.

Port ID that identifies the possible ports (redundant routing protocol type). The port ID
within the table verifies the protocol ID (claim 14)

VLAN ID, which verifies incoming VLAN address (claim 15). This extends to claims 17
and 20, allowing routing using a virtual router address.

Other associated data, which as is well known in the art, could be for the searching of
Group ID (claim 16).

Therefore it would have been obvious to one of the ordinary skill in the art to
modify the routing system of Lamberton which contains a means for comparison, with a
further means of comparison as disclosed by Chung in order to better route a packet
given the designer of the systems preferences.

Claim 12   Chung states that the portions of the packet generally contain more than
32 bits, so there is a need for multiple memory write cycles, as one cycle only deals with
32 bits at a time. Chung uses the word "Generally", to disclose that it is well known in
the art that the packet may contain portions that are more than 32 bits (see Col 8 line
65- Col 9 line14).

Claim 21 and 22   Lamberton discloses that the comparing means, mediator, can be
any type of processing unit connected to a LAN and running IP protocol (programmable
packet switching controller or hard wired packet switching controller), as is well known
in the art (see Col 4 lines 26-60).

Therefore it would have been obvious to one of the ordinary skill in the art at the

time of the invention to expand upon Lamberton's system of routing, which uses

comparison means of MAC addresses, with Chung's invention, which uses a look up

table in its comparison method, using various addresses and covers a virtual aspect.

The motivation for this modification is to have a more specific choice of routing and

allow virtual access.

4.   Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over

Lamberton et al. (US 6754220) in view Li et al. (US 5473599) further in view of Oconnell

et al (US 6661787). ·

Claim 24   Lamberton and Li disclose all of the limitations of claim 24, but fail to

disclose a range check means for determining whether at least one of the VLAN ID and

redundant router protocol group ID is within a predetermined range. However, Oconnell

introduces a device and method for routing in a LAN environment that contains a look-

up table. Oconnell uses a specific (predefined) range of MAC values to determine an

initial form of verification. The MAC address and VLAN ID in element 33 in fig 3 show

that these specifications are sent together, and clearly a range for the VLAN ID could be

used rather than the range for the MAC address depending upon the designers

specifications and preferences (see Col 4 line55- Col5 line 4).

Therefore it would have been obvious to one in the ordinary skill in the art at the time to

take the modifications previously made with the inventions of Lamberton and Li, and

further make a modification of the look up table provided by Li with the range check

provided by Oconnell in order to achieve a highly screened routing mechanism.

Response to Arguments

5.   Applicant's arguments filed 01/04/05 have been fully considered but they are not

persuasive.

Regarding claim 1, the applicant argued that the cited art does not teach, using

two protocols in the same LAN, and furthermore, the Applicant's claimed "a first one of

the hosts applies a packet of a first redundant router protocol type to the LAN medium

and a second one of the hosts applies a packet of a second redundant router protocol to

the LAN medium..."

The examiner maintains that the same limitation, in its broadest term, is already

discussed in the rejection of claim 1, wherein Lamberton discloses a hot standby router

protocol (first redundant router protocol) being implemented on two routers (elements

120 and 130 in fig 1) within a LAN, where an IP address is used to route the data to the

routers (see fig 1 and Col 3 lines 52-65). Lamberton also discloses a virtual router

redundancy protocol being implemented on two routers (elements 220 and 230 in fig 2)

within a LAN, where an IP address is used to route data from a host to the respective

routers (Col 3 line 66- Col 4 line 19). Lamberton also discloses a mediator, which

selects one router among the plurality of router (Col 3 lines 10-27). It would have been

obvious to one of the ordinary skill in the art at the time of the invention that the routers

using both protocols could be combined to form one LAN, and furthermore, the mediator

selects which router/protocol type for which the data is routed to.

Regarding claim 10, the applicant argued that the cited art does not disclose "A

method of routing a plurality of packets using *a plurality of redundant routing*

protocols..."

The examiner maintains that the same limitation, in its broadest term, is already

discussed in the rejection of claim 10, wherein Lamberton discloses a method for

routing data through a mediator to a plurality of active routers (Col 3 lines 10-27).

Lamberton also discloses active routers being applied using a hot standby router

protocol (Col 3 lines 52-65) and a virtual router redundancy protocol (Col 3 lines 66-Col

4 line 19). It would have been obvious to one of the ordinary skill in the art at the time of

the invention that the active routers disclosed above could be combined to form a LAN.

The mediator used for routing purposes would allow for the implementation of both

redundant protocols to be applied within the same entity.

Regarding claim 18, the applicant argued that the cited art does not disclose a

"first comparator for comparing a packet address prefix and a first defined value to

determine whether the packet is of a first redundant router protocol type..." and a

"second comparator for comparing the packet address prefix and a second predefined

value to determine whether the packet is of a second redundant router protocol type."

The examiner maintains that the same limitation, in its broadest term, is already

discussed in the rejection of claim 18, wherein Lamberton discloses a comparator in the

mediator (element 300 in fig 3), which uses the comparison of MAC addresses

(considered prefix) in order to match the corresponding destination router. It would have been obvious to one of the ordinary skill in the art at the time of the invention that if the routers were combined within one LAN as disclosed in the response to argument of claims 1 and 18, that a MAC address would define what particular router to be applied, where the routers would implement either a hot standby router protocol or a virtual router redundant protocol.

6.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.
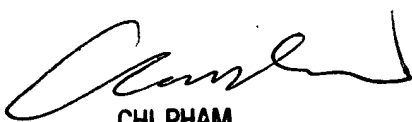
7.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Christopher P Grey whose telephone number is

(571)272-3160. The examiner can normally be reached on 6:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Chi Pham can be reached on (571)272-3179. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

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For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

Christopher Grey
Examiner
Art Unit 2667

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